Virology

Volume 104
1980

EDITORS

W. K. Joklik, EDITOR-IN-CHIEF
P. W. Choppin
R. Haselkorn
A. J. Levine
R. W. Schlesinger
T. A. Shalla
L. Siminovitch
P. K. Vogt
M. Zaitlin

ASSOCIATE EDITORS

S. Adhya
L. A. Ball
T. Ben-Porat
D. H. L. Bishop
J. M. Bishop
L. W. Black
D. P. Bolognesi
D. Botstein
G. E. Bruening
J. M. Coffin
J. S. Colter
S. Dales
J. E. Darnell, Jr.
F. A. Eiserling
A. J. Faras
B. N. Fields
R. I. B. Francki
D. I. Friedman
R. M. Friedman
E. P. Geiduschek
R. F. Gesteland
R. M. Goodman
A. Granoff
K. A. Harrap
I. Herskowitz
R. Hull
A. O. Jackson
E. M. J. Jaspars
J. M. Kaper
S. I. T. Kennedy
E. Kieff
K. S. Kim
D. W. Kingsbury
R. M. Krug
R. A. Lamb
L. Levintow
R. M. Lister
H. F. Lodish
R. B. Luftig
R. C. Miller, Jr.
T. J. Morris
B. Moss
F. A. Murphy
P. E. Neiman
J. S. Pagano
P. Palese
R. E. Pollack
F. Rapp
J. Sambrook
C. E. Samuel
P. A. Schaffer
A. Scheid
M. J. Schlesinger
E. M. Scolnick
J. R. Scott
O. P. Sehgal
P. A. Sharp
J. G. Shaw
T. Shenk
V. Stollar
M. D. Summers
W. C. Summers
R. H. Symons
P. Tegtmeyer
H. E. Varmus
J. Youngner
N. D. Zinder

ACADEMIC PRESS
A Subsidiary of Harcourt Brace Jovanovich, Publishers

New York London Toronto Sydney San Francisco

Copyright © 1980 by Academic Press, Inc.

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (21 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U. S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1980 articles are the same as those shown for current articles.

MADE IN THE UNITED STATES OF AMERICA

Contents of Volume 104

NUMBER 1, JULY 15, 1980

MILTON ZAITLIN, C. L. NIBLETT, ELIZABETH DICKSON, AND R. B. GOLDBERG. Tomato DNA Contains No Detectable Regions Complementary to Potato Spindle Tuber Viroid as Assayed by Solution and Filter Hybridization 1

ANDREA D. BRANCH AND ELIZABETH DICKSON. Tomato DNA Contains No Detectable Regions Complementary to Potato Spindle Tuber Viroid as Assayed by Southern Hybridization 10

CARL W. ANDERSON AND JAMES B. LEWIS. Amino-Terminal Sequence of Adenovirus Type 2 Proteins: Hexon, Fiber, Component IX, and Early Protein 1B-15K 27

BARRY BAXT AND HOWARD L. BACHRACH. Early Interactions of Foot-and-Mouth Disease Virus with Cultured Cells 42

SYLVIE VAN DER WERF, JEAN-PIERRE BOUCHÉ, MARCEL MÉCHALI, AND MARC GIRARD. Involvement of Both DNA Polymerases α and γ in the Replication of Adenovirus Deoxyribonucleic Acid *in Vitro* .. 56

TIKVA VOGEL. Recombination between Endogenous and Exogenous Simian Virus 40 Genes. III. Rescue of SV40 *tsA* and *tsBC* Mutants by Passage in Permissive Transformed Monkey Lines 73

RAFAEL P. MELLADO, MIGUEL A. PEÑALVA, MARTA R. INCIARTE, AND MARGARITA SALAS. The Protein Covalently Linked to the 5′ Termini of the DNA of *Bacillus subtilis* Phage ϕ29 Is Involved in the Initiation of DNA Replication 84

F. E. GILDOW AND W. F. ROCHOW. Role of Accessory Salivary Glands in Aphid Transmission of Barley Yellow Dwarf Virus 97

KEI AMEMIYA, BILHA RABOY, AND LUCILLE SHAPIRO. Involvement of the Host RNA Polymerase in the Early Transcription Program of *Caulobacter crescentus* Bacteriophage ϕCdl DNA 109

J. S. SEMANCIK AND P. R. DESJARDINS. Multiple Small RNA Species and the Viroid Hypothesis for the Sunblotch Disease of Avocado 117

GHOLAMREZA DARAI, BERTFRIED MATZ, ROLF M. FLÜGEL, ALFRED GRAFE, HANS GELDERBLOM, AND HAJO DELIUS. An Adenovirus from *Tupaia* (Tree Shrew): Growth of the Virus, Characterization of Viral DNA, and Transforming Ability 122

R. G. WEBSTER AND W. G. LAVER. Determination of the Number of Nonoverlapping Antigenic Areas on Hong Kong (H3N2) Influenza Virus Hemagglutinin with Monoclonal Antibodies and the Selection of Variants with Potential Epidemiological Significance 139

JOHN DE SENA AND BRUCE TORIAN. Studies on the *in Vitro* Uncoating of Poliovirus. III. Roles of Membrane-Modifying and -Stabilizing Factors in the Generation of Subviral Particles 149

MARTINE Y. K. ARMSTRONG, RICHARD B. WEININGER, DAVID BINDER, CAROL A. HIMSEL, AND FRANK F. RICHARDS. Role of Endogenous Murine Leukemia Virus in Immunologically Triggered Lymphoreticular Tumors. II. Isolation of B-Tropic Mink Cell Focus-Inducing (MCF) Murine Leukemia Virus 164

WILLIAM G. DOUGHERTY AND ERNEST HIEBERT. Translation of Potyvirus RNA in a Rabbit Reticulocyte Lysate: Identification of Nuclear Inclusion Proteins as Products of Tobacco Etch Virus RNA Translation and Cylindrical Inclusion Protein as a Product of the Potyvirus Genome 174

WILLIAM G. DOUGHERTY AND ERNEST HIEBERT. Translation of Potyvirus RNA in a Rabbit Reticulocyte Lysate: Cell-Free Translation Strategy and a Genetic Map of the Potyviral Genome 183

ARA G. HOVANESSIAN, ELIANE MEURS, ODILE AUJEAN, CATHERINE VAQUERO, SIMON STEFANOS, AND ERNESTO FALCOFF. Antiviral Response and Induction of Specific Proteins in Cells Treated with Immune T (Type II) Interferon Analogous to that from Viral Interferon (Type I)-Treated Cells ... 195

R. ZIVIN, C. MALONE, AND L. B. ROTHMAN-DENES. Physical Map of Coliphage N4 DNA 205

SHORT COMMUNICATIONS

T. OOKA AND A. CALENDER. Effects of Arabinofuranosylthymine on Epstein–Barr Virus Replication 219

K. G. MURTI, W. J. BEAN, JR., AND R. G. WEBSTER. Helical Ribonucleoproteins of Influenza Virus: An Electron Microscopic Analysis 224

R. T. HAY AND J. HAY. Properties of Herpesvirus-Induced "Immediate Early" Polypeptides 230

A. PORTNER, R. G. WEBSTER, AND W. J. BEAN. Similar Frequencies of Antigenic Variants in Sendai, Vesicular Stomatitis, and Influenza A Viruses 235

NANCY K. ZELLER, LOUIS GAZZOLO, AND CARLO MOSCOVICI. A Study of the Epithelioid Transformation of MC29-Infected Chicken Embryo Cells 239

HERBERT PFISTER AND JOSEF MESZAROS. Partial Characterization of a Canine Oral Papillomavirus 243

MARGARET J. SEKELLICK AND PHILIP I. MARCUS. Viral Interference by Defective Particles of Vesicular Stomatitis Virus Measured in Individual Cells 247

SHANTI L. BILIMORIA AND BASIL M. ARIF. Structural Polypeptides of *Choristoneura biennis* Entomopoxvirus 253

Y. EHARA AND G. I. MINK. Cucumber Mosaic Virus and Peanut Stunt Virus Differ in an Initial Event that Occurs during the Infection of Cowpea Leaf Epidermal Cells 258

ORENCIO FERNANDEZ-GONZALEZ, JOËL RENAUDIN, AND JOSEPH M. BOVE. Infection of Chlorophyll-less Protoplasts from Etiolated Chinese Cabbage Hypocotyls by Turnip Yellow Mosaic Virus .. 262
AUTHOR INDEX FOR VOLUME 104, NUMBER 1 266

NUMBER 2, JULY 30, 1980

PHYLLIS B. MOSES, JEF D. BOEKE, KENSUKE HORIUCHI, AND NORTON D. ZINDER. Restructuring the Bacteriophage f1 Genome: Expression of Gene VIII in the Intergenic Space 267
AKHIL B. VAIDYA, CAROLE A. LONG, JOEL B. SHEFFIELD, AKIRA TAMURA, AND HARUTAKA TANAKA. Murine Mammary Tumor Virus Deficient in the Major Glycoprotein: Biochemical and Biological Studies on Virions Produced by a Lymphoma Cell Line 279
R. T. C. HUANG, K. WAHN, H.-D. KLENK, AND R. ROTT. Fusion between Cell Membrane and Liposomes Containing the Glycoproteins of Influenza Virus 294
M. SUH, A. KESSOUS, N. POIRIER, AND R. SIMARD. Immunoprecipitation of Polypeptides from Hamster Embryo Cells Transformed by Herpes Simplex Virus Type 2 303
ROBERT S. GREENFIELD, DAVID C. FLYER, AND SATVIR S. TEVETHIA. Demonstration of Unique and Common Antigenic Sites Located on the SV40 Large T and Small t Antigens 312
NANCY E. HARDING AND JUNETSU ITO. DNA Replication of Bacteriophage ϕ29: Characterization of the Intermediates and Location of the Termini of Replication 323
RANJIT DASGUPTA, PAUL AHLQUIST, AND PAUL KAESBERG. Sequence of the 3′ Untranslated Region of Brome Mosaic Virus Coat Protein Messenger RNA 339
ALBERDINA A. VAN DIJK AND HENDRIK HUISMANS. The *in Vitro* Activation and Further Characterization of the Bluetongue Virus-Associated Transcriptase 347
MONIQUE GARNIER, ROBERT MAMOUN, AND JOSEPH MARIE BOVE. TYMV RNA Replication *in Vivo*: Replicative Intermediate Is Mainly Single Stranded 357
MARGARET L. STEWART, ROBERT J. CROUCH, AND J. V. MAIZEL, JR. A High-Resolution Oligonucleotide Map Generated by Restriction of Poliovirus Type I Genomic RNA by Ribonuclease III 375
NURIT KATZIR, ARIELLA OPPENHEIM, AND AMOS B. OPPENHEIM. Coordinated Regulation of the *c*I and *int* Genes in Coliphage λ and Specificity of the *c*II/*c*III Activators 398
MEI-HUEI T. LAI AND INDER M. VERMA. Genome Organization of Retroviruses. VIII. Nonproducer Cell Lines of Mouse Fibroblasts Transformed by Moloney Murine Sarcoma Virus DNA Synthesized *in Vitro* 407
W. SCHUMANN, E. G. BADE, R. A. FORGIE, AND M. M. HOWE. Cloning of DNA Fragments of the Right End of Phage Mu and Location of the *Hin*dIII, *Sal*I, *Pst*I, and *Bam*HI Restriction Sites on the Genetic Map of Mu 418
SARA T. BEATRICE, MICHAEL G. KATZE, BARBARA A. ZAJAC, AND RICHARD L. CROWELL. Induction of Neutralizing Antibodies by the Coxsackievirus B3 Virion Polypeptide, VP2 426
D. ZOUZIAS, D. D. JHA, C. MULDER, C. BASILICO, AND H. L. OZER. Human Fibroblasts Transformed by the Early Region of SV40 DNA: Analysis of "Free" Viral DNA Sequences 439
C. H. SMIT AND E. M. J. JASPARS. Activation of the Genome of Alfalfa Mosaic Virus Is Enhanced by the Presence of the Coat Protein on All Three Genome Parts 454
DIANNE J. WIGMORE, RICHARD W. EATON, AND WALTER A. SCOTT. Endonuclease-Sensitive Regions in SV40 Chromatin from Cells Infected with Duplicated Mutants 462
MARVIN S. REITZ, JR., MARIBETH VOLTIN, AND ROBERT C. GALLO. Characterization of a Partial Provirus from a Gibbon Ape Naturally Infected with Gibbon Ape Leukemia Virus 474
SHORT COMMUNICATIONS
PETER J. WRIGHT, HEATHER M. WARR, AND E. G. WESTAWAY. Preliminary Characterization of Glycopeptides Derived from Glycoproteins Specified by the Flavivirus Kunjin 482
S. CHATTERJEE AND E. HUNTER. Inhibition of Mason–Pfizer Monkey Virus-Induced Syncytium Formation in Normal Human Cells by Homologous Interferon 487
C. W. LONG, L. E. HENDERSON, AND S. OROSZLAN. Isolation and Characterization of Low-Molecular-Weight DNA-Binding Proteins from Retroviruses 491
WOLFGANG DEPPERT. SV40 T-Antigen-Related Surface Antigen: Correlated Expression with Nuclear T-Antigen in Cells Transformed by an SV40 A-Gene Mutant 497
JEFFREY M. OSTROVE AND KENNETH I. BERNS. Adenovirus Early Region 1b Gene Function Required for Rescue of Latent Adeno-Associated Virus 502
TINEKE RUTGERS, TERRY SALERNO-RIFE, AND PAUL KAESBERG. Messenger RNA for the Coat Protein of Southern Bean Mosaic Virus 506
RICHARD S. GALOS, JIM WILLIAMS, TOM SHENK, AND NICHOLAS JONES. Physical Location of Host-Range Mutations of Adenovirus Type 5; Deletion and Marker-Rescue Mapping 510
KATHLEEN A. TWEETEN, LEE A. BULLA, JR., AND RICHARD A. CONSIGLI. Restriction Enzyme Analysis of the Genomes of *Plodia interpunctella* and *Pieris rapae* Granulosis Viruses 514
AUTHOR INDEX FOR VOLUME 104 520
SUBJECT INDEX FOR VOLUME 104 522